



88064811

aeromet

SEASONAL PROGRESS REPORT NO. 5
for the period
March, April and May 1977

to

ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 Lincoln St., Suite 900
Denver, CO 80203

Contract No. 68-01-1946

aeromet inc.

P.O. BOX FF NORMAN, OKLAHOMA 73070
405 329-2424

OSMIS

LIBRARY CONTROL NO.

010081169

7701226

8706 48 11

TN
217
-182
6448
70.5
0.2

BLM Library
D-553A, Building 50
Denver Federal Center
P. O. Box 25047
Denver, CO 80225-0047

SEASONAL PROGRESS REPORT NO. 5

for the period

March, April and May 1977

to

ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

1860 Lincoln St., Suite 900

Denver, CO 80203

Contract No. 68-01-1946

by

Aeromet, Inc.

P.O. Box FF

Norman, OK 73070

ELM LIBRARY
D-553A, Building 55
Denver Federal Center
P. O. Box 1500
Denver, CO 80202-0015

1.0 INTRODUCTION

Low level temperature and wind data were collected for the spring season of March, April and May, 1977 at Casper, Wyoming; the Colorado C-b Tract 25 miles west of Rio Blanco, Colorado; Craig, Colorado; Escalante and Hanksville, Utah; Rock Springs, Wyoming; and the U-a/U-b Tract 5 miles south of Bonanza, Utah. The collection of data at the U-a/U-b site commenced October 1, 1976 and will continue through 30 September, 1977. The data were collected using a 30 gm helium filled pilot balloon with a temperature sonde attached, a single theodolite and a TSR-2 receiver/recorder twice a day every other day. The observations were made $\frac{1}{2}$ hour after sunrise and at 1400L.

The pilot balloon had an ascent rate of 500 ft/min and it was tracked by a single theodolite for 12 minutes with the azimuth and elevation angles recorded every 30 seconds on a cassette tape recorder. The tape was transcribed to a pilot balloon form after the observation.

The temperature sonde operated at 403 MHz and the signal was received by a ground plane antenna at least 24 ft. AGL which was attached to the Aeromet, Inc. TSR-2 receiver/recorder. The TSR-2 receiver has a built-in Rustrak strip chart recorder and the temperature was recorded within the range from -50°C to $+50^{\circ}\text{C}$. A baseline temperature calibration was performed with each T-Sonde by the adjustment of the recorded temperature to match the thermometer measured temperature next to the transmitting sonde. Once the calibration check was finished the balloon was released with the sonde attached and the temperature was recorded for at least 20 minutes. At the completion of each observation the data were mailed to Aeromet, Inc.

The Seasonal Progress Report is divided into seven parts, one corresponding to each of the seven field sites. The temperature and wind data were not edited after the completion of the Monthly Progress Reports.

2.0 DATA SUMMARY

2.1 Mixing Layer Height

The average mixing layer height was computed for the morning and afternoon based on the morning and 1400L temperature soundings. The balloon release $\frac{1}{2}$ hour after sunrise is near enough to the minimum temperature to assume the correctness of the calculated mixing layer heights. The afternoon balloon release is generally not at the time of maximum heating and the user of the mixing layer height data must be aware that minor changes in the calculated values can be expected. Without equipping the field sites with minimum/maximum thermometers the extrapolation of the afternoon data cannot be justified in establishing a data base for statistical analysis. The approximation of the afternoon maximum temperature would be a "calculated guess" for there are: 1) local effects which are to be determined and would be filtered out with extrapolation, 2) mountain effects which alter the lower 1500m (e.g. downslope effects), and 3) meteorological effects which can alter the expected change in the sounding (e.g. advection, moisture, etc.).

It is felt that to better define the mixing layer height a variety of "heat island" effects should be viewed. The rigorous method would be to define 15 "heat island" effects ranging from 0 to 14°C and let the user decide which would best serve his needs. However, for this analysis 0°, +5° and +10° "heat island" effects are calculated and listed for the morning and afternoon soundings in the table Average Mixing Layer Height.

A summary of the average mixing layer heights calculated with the 0°, +5° and +10° "heat island" effects for each of the seven field sites for the spring season of March, April and May 1977 are included in the report. The percent of occurrence of the average height within 250m increments above ground level is given in tabular form. The total number of soundings included in the sample populations are listed in the table.

2.2 Stability and Inversion Classification

The temperature and wind data were edited to remove data felt to cause anomalous results in the stability and inversion classification schemes. Only the stations listed prior to the table classifying the inversions were used in the calculations.

The temperature data are processed to produce for each site a seasonal summary of inversion layers and lapse rates within the inversions and from the inversion base to the surface by means of the Holzworth classification scheme for inversions (Holzworth, G. C., 1974: "Climatological Data on Atmospheric Stability in the United States" paper presented at the American Meteorological Society Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974, Santa Barbara, California.)

The temperature and wind data are processed together to produce for each site a monthly average bivariate frequency distribution of wind direction versus wind speed represented in the 500m layer adjacent to the ground. The distribution is presented by the six Pasquill stability classes (A-F) and a summary independent of stability. If the $\Delta T/100m$ criterion is met but the wind speed criterion is not met, then the wind data are checked against the criterion

STABILITY CLASS	ΔT ($^{\circ}C/100m$)	WIND SPEED ($m\ s^{-1}$)
A	<-1.9	≤ 2
B	$-1.9 - -1.7$	≤ 5
C	$-1.7 - -1.5$	≤ 6
D	$-1.5 - -0.5$	ALL SPEEDS
E	$-0.5 - 1.5$	≤ 5
F	>1.5	≤ 3

for the next stability class, always cascading to the D stability class. Once the wind speed criterion is met the data are classified under the new stability class even though now the lapse rate exceeds the class criterion. For example, if the $\Delta T/100m$ value is 1.7 and the wind speed is $7\ m\ s^{-1}$, the lapse rate criterion is met for the stability class F, however the wind speed criterion is exceeded. The wind speed is greater than the $5\ m\ s^{-1}$ maximum limit for class E but falls within the criterion of class D, which includes all wind speeds. As a result the observational data with a ΔT value of $1.7^{\circ}C/100m$ and a wind speed value of $7\ m\ s^{-1}$ are classified under stability class D, not class F.

The data are also punched on computer cards in a format compatible with the STAR PROGRAM of the National Climatic Center, NOAA, U.S. Department of Commerce. A detailed description of the punched output can be found in the Monthly Progress Reports.

AVERAGE MIXING LAYER HEIGHT
Utah U-a/U-b Tract
Season: March, April, May 1977

MIXING LAYER HEIGHT (Height in meters)	PERCENT OF OCCURRENCE					
	MORNING			AFTERNOON		
	0'	+5'	+10'	0'	+5'	+10'
surface	68.2			15.9		
1 - 250m	27.3	51.2	11.6	29.5		
251 - 500m	2.3	18.6	18.6	13.6		
501 - 750m		9.3	16.3	2.3	6.8	
751 - 1000m		2.3	7.0	11.4	9.1	
1001 - 1250m				6.8	15.9	
1251 - 1500m		2.3	9.3	6.8	6.8	2.3
1501 - 1750m		2.3	2.3		15.9	13.6
1751 - 2000m		2.3	4.7			9.1
> 2000m	2.3	11.6	18.6	13.6	40.9	45.5
None defined			11.6		4.5	29.5
TOTAL NUMBER	44	43	43	44	44	44

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4032
 DATE 03/02/77 TIME 11:15:15 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 412. 451. 0.26 -1.41

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4034
 DATE 03/04/77 TIME 06:14:08 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 58. 76. 0.76 -0.26

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4036
 DATE 03/04/77 TIME 13:53:51 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 457. 495. 0.0 -0.59

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4038
 DATE 03/06/77 TIME 06:50:51 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 0. 343. 2.59 0.0

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4033
 DATE 03/06/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 517. 550. 0.30 -0.92

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4035
 DATE 03/06/77 TIME 06:59:21 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 0. 457. 1.93 0.0

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4037
 DATE 03/06/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE INV TOP INV DT/DZ DT/DZ BELOW INV
 METERS AGL METERS AGL (DEG C)/100M (DEG C)/100M
 122. 160. 0.24 -1.57

DATE 03/10/77 TIME 13:50 PST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
104.	270.	0.13	-0.96

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4286

DATE 03/10/77 TIME 13:50 PST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	58.	0.0	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4291

DATE 03/12/77 TIME 13:50 PST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
724.	2000.	0.16	-0.75

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4293

DATE 03/14/77 TIME 06:52 PST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	152.	1.92	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4295

DATE 03/14/77 TIME 13:50 PST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
243.	290.	0.36	-1.33

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4285

DATE 03/16/77 TIME 06:51 PST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	724.	1.45	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4287

DATE 03/16/77 TIME 13:55 ST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERTED BASES WITHIN 1500 OF THE SEL

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-1.09
100.	250.	-0.74
250.	500.	-0.74
500.	750.	-0.74
750.	1000.	-0.75
1000.	1500.	-0.65

DATE 03/17/77 TIME 06:10:00 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1080.	1137.	0.0	-1.03

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4264

DATE 03/18/77 TIME 13:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	152.	0.63	-1.00

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4260

DATE 03/20/77 TIME 06:22:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	76.	0.0	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4278

DATE 03/20/77 TIME 13:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	156.	0.0	-4.20

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4289

DATE 03/22/77 TIME 06:15:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	305.	2.36	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4288

DATE 03/22/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
615.	682.	0.49	-1.27

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4281

DATE 03/24/77 TIME 06:10:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	58.	0.0	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4279

DATE 03/24/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

DATE 03/18/77 TIME 13:50Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1080.	1157.	0.0	-1.03

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4284

DATE 03/18/77 TIME 13:50Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	152.	0.63	-1.00

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4280

DATE 03/20/77 TIME 06:22Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	76.	0.0	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4278

DATE 03/20/77 TIME 13:50Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	150.	0.0	-4.20

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4289

DATE 03/22/77 TIME 06:15Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	305.	2.36	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4288

DATE 03/22/77 TIME 13:51Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
615.	682.	0.49	-1.27

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4281

DATE 03/24/77 TIME 06:10Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	50.	0.0	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4279

DATE 03/24/77 TIME 13:51Z ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

DATE 03/24/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
120.	102.	0.0	-1.54

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4290

DATE 03/26/77 TIME 06:15:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
70.	114.	0.0	-0.57

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4283

DATE 03/26/77 TIME 13:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
155.	202.	0.41	-2.10

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4277

DATE 03/28/77 TIME 06:07:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE INSUFFICIENT DATA WITHIN 2000M OF THE SFC

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4275

DATE 03/28/77 TIME 13:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
130.	170.	0.0	-1.79

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4273

DATE 03/30/77 TIME 06:08:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	229.	2.02	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4292

DATE 03/30/77 TIME 13:52:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
404.	420.	0.57	-1.19

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4270

DATE 04/01/77 TIME 06:11:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
------------------------	-----------------------	---------------------------	---------------------------------

DATE 04/00/77 TIME 13:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	505.	1.11	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4274

DATE 04/01/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	153.	0.0	-2.44

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4272

DATE 04/03/77 TIME 05:58:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	343.	1.46	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4282

DATE 04/03/77 TIME 13:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
478.	517.	0.0	-0.93

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4399

DATE 04/05/77 TIME 05:55:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	152.	1.12	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4401

DATE 04/05/77 TIME 13:51:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
206.	399.	0.24	-1.53

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4403

DATE 04/07/77 TIME 05:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
36.	115.	0.77	-1.26

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4405

DATE 04/07/77 TIME 14:28 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	75.	1.94	-1.39

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4398

DATE 04/09/77 TIME 05:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	510.	1.83	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4400

DATE 04/11/77 TIME 05:45MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	533.	0.53	-0.97

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4402

DATE 04/13/77 TIME 05:47MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	305.	0.47	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4404

DATE 04/13/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	191.	0.44	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4391

DATE 04/15/77 TIME 05:42MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	114.	0.0	-0.50

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4393

DATE 04/15/77 TIME 13:52MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
191.	497.	0.12	-0.79

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4495

DATE 04/15/77 TIME 05:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

DATE 04/17/77 TIME 13:30 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	1161.	0.56	0.0

UTAH UAUB ELEV 1505 METERS SOUNDING ID 4397

DATE 04/17/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	191.	0.65	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 4370

DATE 04/19/77 TIME 05:31 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	1.76	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 4392

DATE 04/19/77 TIME 13:52 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.47	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 4391

DATE 04/21/77 TIME 05:29 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	914.	0.65	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 4396

DATE 04/21/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
36.	152.	0.70	-0.71

UTAH UAUB ELEV 1585 METERS SOUNDING ID 4382

DATE 04/23/77 TIME 05:28 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	991.	0.84	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 4384

DATE 04/23/77 TIME 13:05 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

UTAH UAOB ELEV 1585 METERS
DATE 04/25/77 TIME 13:45MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	116.	0.0	-1.15

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4386

DATE 04/25/77 TIME 05:25MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	1105.	0.43	0.0

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4388

DATE 04/25/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
224.	262.	0.92	-1.25

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4383

DATE 04/27/77 TIME 04:21MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	457.	0.04	0.0

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4385

DATE 04/27/77 TIME 12:54MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
741.	970.	0.07	-0.82

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4387

DATE 04/29/77 TIME 04:21MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	303.	1.45	-0.26

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4389

DATE 04/29/77 TIME 12:59MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	114.	0.38	0.0

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4596

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4596
DATE 05/01/77 TIME 13:17 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
58.	870.	1.02	-1.99

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4594

DATE 05/01/77 TIME 13:51 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	191.	0.09	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4592

DATE 05/03/77 TIME 05:10 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	914.	0.70	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4590

DATE 05/03/77 TIME 13:49 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	114.	2.07	-0.61

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4595

DATE 05/05/77 TIME 05:15 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	457.	0.87	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4393

DATE 05/05/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	152.	0.24	-1.06

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4591

DATE 05/07/77 TIME 05:00 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	543.	2.55	0.0

UTAH DAUB

ELEV 1585 METERS

SOUNDING ID 4589

DATE 05/07/77 TIME 13:57 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO PRESSURE BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-2.27
100.	250.	-1.01
250.	500.	-1.03
500.	750.	-0.90
750.	1000.	-1.10
1000.	1500.	-0.98

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4587

DATE 05/09/77 TIME 05:00 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	343.	1.28	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4585

DATE 05/09/77 TIME 13:51 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
317.	356.	0.0	-1.27

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4583

DATE 05/11/77 TIME 05:03 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	457.	1.34	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4581

DATE 05/11/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
294.	339.	0.90	-1.63

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4588

DATE 05/13/77 TIME 05:02 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	457.	0.67	0.0

UTAH DAUB ELEV 1585 METERS SOUNDING ID 4586

DATE 05/13/77 TIME 13:52 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
------------------------	-----------------------	---------------------------	---------------------------------

DATE 05/13/77 TIME 15:52:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
184.	224.	0.0	-1.40

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4584

DATE 05/15/77 TIME 05:02:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	191.	0.09	0.0

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4582

DATE 05/15/77 TIME 15:53:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SEC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-1.74
100.	250.	-1.17
250.	500.	-1.00
500.	750.	-1.02
750.	1000.	-0.78
1000.	1500.	-1.07

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4580

DATE 05/17/77 TIME 05:00:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
267.	305.	1.50	-1.00

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4578

DATE 05/17/77 TIME 13:55:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
484.	525.	1.21	-0.97

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4576

DATE 05/19/77 TIME 04:50:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	224.	1.59	0.0

UTAH UAOB ELEV 1585 METERS SOUNDING ID 4574

DATE 05/19/77 TIME 15:52:01 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	224.	1.59	0.0

DATE 05/19/77 TIME 05:00 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4579
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ (DEG C)/100M DT/DZ BELOW INV (DEG C)/100M
 232. 306. 0.12 -1.41

DATE 05/21/77 TIME 05:02 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4579
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ (DEG C)/100M DT/DZ BELOW INV (DEG C)/100M
 0. 305. 0.78 0.0

DATE 05/21/77 TIME 13:52 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SEC
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4573
 LAYER BASE METERS AGL LAYER TOP METERS AGL DT/DZ (DEG C)/100M
 0. 100. -3.63
 100. 250. -0.94
 250. 500. -0.81
 500. 750. -1.05
 750. 1000. -1.08
 1000. 1500. -0.96

DATE 05/23/77 TIME 04:55 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4573
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ (DEG C)/100M DT/DZ BELOW INV (DEG C)/100M
 0. 457. 0.60 0.0

DATE 05/23/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4601
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ (DEG C)/100M DT/DZ BELOW INV (DEG C)/100M
 114. 381. 0.03 -1.15

DATE 05/25/77 TIME 04:53 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4792
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ (DEG C)/100M DT/DZ BELOW INV (DEG C)/100M
 495. 355. 0. -0.60

DATE 05/25/77 TIME 13:51 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 UTAH DAUB ELEV 1565 METERS SOUNDING ID 4610
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ (DEG C)/100M DT/DZ BELOW INV (DEG C)/100M

UTAH DAUB 11 E 13:51 ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.
 INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 162. 221. 0.47 -1.49

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4803

DATE 05/27/77 TIME 04:52 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 0. 141. 0.25 0.0

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4802

DATE 05/27/77 TIME 12:59 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 1445. 1483. 0.0 -1.00

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4812

DATE 05/29/77 TIME 04:51 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 0. 762. 0.57 0.0

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4809

DATE 05/29/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 133. 210. 0.70 -1.84

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4806

DATE 05/31/77 TIME 04:40 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 0. 600. 0.63 0.0

 UTAH DAUB ELEV 1585 METERS SOUNDING ID 4793

DATE 05/31/77 TIME 13:50 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL INV TOP METERS AGL INV DT/DZ DT/DZ BELOW INV
 (DEG C)/100M (DEG C)/100M
 257. 333. 0.0 -1.34

MONTH: M A M YEAR: 1977 UTM DATA SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	4-9	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
TIME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE A STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 88 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTH: MAY A D YEAR: 1977 UAH UAH SFC 10 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	4-6	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE B STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 88 SOUNDINGS DID NOT HAVE 500 MTP TEMP AND WIND DATA

MONTH: M A M YEAR: 1977 UTAH GAUG SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	4-9	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE C STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

4 TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 88 SOUNDINGS DID NOT HAVE
500 m OF 10 MP AND WIND DATA

MONTH: MAR YEAR: 1977 UAH DAUB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	6-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
FL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FLC	0.02	0.00	0.00	0.00	0.00	1.7	0.02
NE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENE	0.04	0.00	0.00	0.00	0.00	1.0	0.04
E	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ESE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.04	0.02	0.04	0.00	0.00	7.6	0.16
S	0.02	0.07	0.02	0.00	0.00	10.2	0.09
SSW	0.00	0.04	0.02	0.00	0.00	6.7	0.10
SW	0.00	0.02	0.00	0.00	0.00	7.0	0.02
WSW	0.04	0.04	0.00	0.00	0.00	4.8	0.13
W	0.02	0.02	0.00	0.00	0.00	3.4	0.04
WNW	0.11	0.11	0.00	0.00	0.00	4.3	0.27
NW	0.00	0.02	0.00	0.00	0.00	0.0	0.04
NNW	0.02	0.00	0.00	0.00	0.00	2.7	0.02
AVG SPEED	2.1	4.7	15.2	0.0	0.0		0.0
TOTAL	0.51	0.29	0.31	0.0	0.0		1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE D STABILITY CLASS IS 0.58

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 88 SOUNDINGS DID NOT HAVE
 SFC OR TEMP AND WIND DATA

MONTH: N A M YEAR: 1977 UTM DATA SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.03	0.0	0.0	0.0	0.0	0.0	1.5	0.03
E	0.07	0.0	0.0	0.0	0.0	0.0	1.7	0.07
SE	0.0	0.03	0.0	0.0	0.0	0.0	2.2	0.03
SW	0.0	0.03	0.0	0.0	0.0	0.0	2.8	0.07
S	0.15	0.15	0.0	0.0	0.0	0.0	4.4	0.03
SSW	0.07	0.07	0.0	0.0	0.0	0.0	2.3	0.07
SSW	0.10	0.07	0.0	0.0	0.0	0.0	2.7	0.17
SW	0.03	0.0	0.0	0.0	0.0	0.0	1.2	0.03
WSW	0.10	0.03	0.0	0.0	0.0	0.0	1.9	0.15
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.03	0.03	0.0	0.0	0.0	0.0	1.8	0.03
AVG SPEED	1.8	3.5	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.57	0.43	0.0	0.0	0.0	0.0	0.0	1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE E STABILITY CLASS IS 0.39

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 88 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTH: M A M YEAR: 1977 UTAH DAAB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	4-6	7-10	SPEED (METER/SEC) 11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
None	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.50	0.0	0.0	0.0	0.0	0.0	0.4	0.50
SSW	0.50	0.0	0.0	0.0	0.0	0.0	1.4	0.50
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE F STABILITY CLASS IS 0.03

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 88 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTH: M A M YEAR: 1977 UTAH UAOB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-5	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
NLE	0.01	0.00	0.00	0.00	0.00	0.00	1.7	0.01
NE	0.01	0.00	0.00	0.00	0.00	0.00	1.5	0.01
ENE	0.05	0.00	0.00	0.00	0.00	0.00	1.7	0.05
E	0.01	0.01	0.00	0.00	0.00	0.00	3.2	0.01
ESE	0.01	0.01	0.00	0.00	0.00	0.00	2.8	0.03
SE	0.01	0.01	0.00	0.00	0.00	0.00	4.4	0.01
SSE	0.06	0.06	0.05	0.03	0.00	0.00	5.0	0.19
S	0.01	0.05	0.04	0.01	0.00	0.00	6.8	0.09
SSW	0.06	0.06	0.05	0.01	0.00	0.00	4.8	0.17
SW	0.01	0.04	0.01	0.00	0.00	0.00	4.4	0.05
WSW	0.06	0.04	0.05	0.00	0.00	0.00	3.7	0.13
W	0.01	0.01	0.01	0.00	0.00	0.00	3.4	0.03
WNW	0.06	0.06	0.05	0.00	0.00	0.00	4.3	0.16
NW	0.01	0.01	0.01	0.00	0.00	0.00	4.5	0.04
NNW	0.05	0.01	0.00	0.00	0.00	0.00	2.9	0.04
AVG SPEED	1.9	4.1	8.2	13.2	0.0	0.0		0.0
TOTAL	0.45	0.54	0.18	0.05	0.0	0.0		1.00

NORMALIZED FREQUENCY DISTRIBUTION INDEPENDENT OF STABILITY

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 11 SOUNDINGS FROM A SAMPLE OF 68 SOUNDINGS DID NOT HAVE 500 M OF TNP AND WIND DATA

Form 1279-3
(June 1984)

BORROWER'S

IN 857 432 044

888-0001 11 0970
The West End . .

DATE LOANED	BORROWER

USDI - BLM

RECEIVED

SEP 1 1977

OFFICE OF
AREA OIL SHALE SUPERVISOR
U.S. G.S.